

# **Exhibit 1**

**Expert Report of Dr. Mark Doms, dated July 23, 2019**

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## **I. Background and Qualifications**

Dr. Mark Doms has direct, extensive experience with the Census Bureau, especially in the planning for the 2020 Census. Dr. Doms oversaw the Census Bureau while serving as acting Under Secretary for Economic Affairs from January 2012 to December 2012. The director of the Census Bureau reports to the Under Secretary for issues relating to Economic Affairs. In December 2012, the United States Senate voted to confirm Dr. Doms as Under Secretary for Economic Affairs, a position he held until September 2015. During this tenure, Dr. Doms worked closely with Census Bureau in developing its plans for the 2020 Census, and worked extensively on communicating the 2020 Census plans to others in the administration and to Congress.

Dr. Doms has served in a variety of other roles in government. From September 2009 to December 2011, Dr. Doms served as Chief Economist of the Department of Commerce, a position that reports directly to the Under Secretary for Economic Affairs. Prior to that, Dr. Doms spent most of his career as an economist in the Federal Reserve System, working at the Board of Governors and the Federal Reserve Bank of San Francisco. Before that, Dr. Doms worked at the Census Bureau from 1988 to 1995 as an economist.

Since leaving the Department of Commerce, Dr. Doms worked as an economist for Nomura (Japan's largest investment bank) and is now currently a Senior Fellow at Centre for International Governance Innovation (a think tank). Dr. Doms also works as an independent consultant, working on a wide variety of public policy issues.

For this expert report, Dr. Doms received compensation of \$275/hour for the first 73 hours and provided pro-bono services after that. The information in this report draws on a wide array of publicly available documents combined with Dr. Doms's expertise.

Dr. Doms received his Ph.D. in economics from the University of Wisconsin-Madison and his B.A. in mathematics and economics from the University of Maryland Baltimore County, where he is an Outstanding Alumnus.

Attached is a curriculum vitae for Dr. Doms, which includes a list of all publications he authored in the last ten years.

## **II. Availability of Information**

I have been retained to evaluate the anticipated impact of underfunding and underplanning on the undercount of racial and ethnic minorities in the 2020 Census. To establish an expert opinion in this case, I reviewed a variety of publicly-available materials from academic, governmental, legal, and media sources, as well as a limited amount of information from discovery through litigation. This included public Census Bureau reports and analyses, scientific research on survey methodology, and my own experiences and familiarity with census and survey practices and standards.

As I understand it, at this stage of the lawsuit, not much discovery has been provided by the government, and given limitations on the availability of other data, this report has been limited to what is available to me at this time. As such, I reserve the right to supplement and revise the opinions made below, particularly based on information that the government may disclose as discovery progresses.

## **III. Summary of Opinion**

The Census Bureau is undertaking several fundamental changes in how it conducts the population census of the United States for 2020. Many of those changes involve the greater use of technology, mainly in an effort to reduce costs. However, the proposed changes are also very likely to reduce the quality of the 2020 Census. In particular, the census has long undercounted racial and ethnic minority communities, and several of the proposed changes will likely worsen the undercount, without additional resources devoted to mitigating that impact. For instance, census data shows that Black households will self-respond under the proposed internet self-response approach for 2020 at a meaningfully lower rates than White

households. Further, the Census Bureau has long touted its community partnership program as a way to specifically target hard-to-count communities, but the Census Bureau plans to reduce the funding of this program by 15.2% from the 2010 level, which, accounting for inflation, amounts to a 29.0% reduction.

In other areas, the Census Bureau is significantly scaling back and increasing the scope of responsibilities of regional offices to unheard of levels, introducing further risk. The Census Bureau is radically reducing its workforce and the number of local offices. The Census Bureau has further made clear that a quality and cost tradeoff lies behind the new methods it used to develop its address list of households to enumerate. These changes introduce considerable risk to the quality of the census, especially if response rates fall below projections, a considerable possibility.

In my opinion, after extensively studying the changes the Census Bureau is proposing, and based on my senior management roles overseeing the Census Bureau, there is considerable risk that differential undercounts for racial and ethnic minorities will worsen in 2020 unless immediate action is taken. Although some of the decisions the Census Bureau has taken cannot be reversed at this late stage, it remains possible and prudent to immediately seek increased resources for:

- Ramping up community outreach programs, programs that have been essential in increasing response rates in hard-to-count communities. The current plan is to inexplicably reduce spending in this area by 29% since the 2010 Census in inflation adjusted terms.
- Massively increase the advertising campaign, where funding is currently projected to be the same in 2020 as in 2010 in inflation adjusted, per capita terms. With falling response rates, slashed funding in the community partnership program, and a host of other changes that will differentially disadvantage racial and ethnic minority communities, a massive increase in advertising would help alleviate the differential undercount for hard-to-count communities.

- Increase the in-field address canvassing operation to beyond the 38.4% coverage now proposed by the Census Bureau. In-office address canvassing, while appealing in theory, has been shown to be fraught with error.
- Prepare for a much larger nonresponse follow-up workforce, especially in light of the considerable risk that response rates may fall well below the Census Bureau's 60.5% estimate, an estimate that has not been publicly shown to be well founded.

#### **IV. Overview of the Census Planning Process**

Article 1, Section 2 of the Constitution requires the U.S. government to conduct a census of its population every 10 years. This requirement reflects the founding fathers' desire to ensure equal representation. Therefore, the objective of the decennial census is not only to come up with accurate top-line population estimates, but also to ensure that all segments of our society are accurately captured, including young and old, urban and rural, single and married, White and non-White. A "high quality" census means that all groups in our society receive appropriate representation, reflecting their true numbers to the greatest extent possible.

In modern times, conducting a population census of the United States, with its roughly 330 million people spread over 3.8 million square miles, is a herculean task. To ensure a quality census the Census Bureau begins planning about 10 years in advance. The main steps to conducting a census include in approximately chronological order:

- devising research agendas to identify potential new methods and changes to existing methods;
- testing new methods to ensure a high-quality census;
- building out resources needed to conduct the census, such as the printing of materials, signing of contracts, opening of offices, hiring of personnel, and obtaining an accurate list of household addresses;

- executing the census, an operation involving hundreds of thousands of employees and billions of dollars in expenditures; and
- preparing data files and assessing the quality of the census after its completion.

To accomplish the various aspects of executing the census, Congress allots over a period of approximately 10 years. This 10-year cycle includes funding for about 8 years leading up to a census, the census year itself, and several years after the census. This funding is required for different stages of preparation. These include:

- Research and Planning. Beginning shortly after the previous Census (T-8 to T-5), resources are devoted to identifying lessons learned from the previous Census and what longer-term research agendas the Bureau should emphasize.<sup>1</sup>
- Testing. In later years (T-4 – T-2), funding is needed to conduct large scale tests in a variety of environments. That variety is especially important given the variety and diversity of environments within the United States: urban and rural, English and non-English speaking, renters and home owners, and so on. For example, a new technology for conducting the census in one environment (say a suburban, English-speaking neighborhood, dominated by home-owners, and relatively stable in terms of changes in the population from year-to-year) may not work nearly as well in another (say a primarily Spanish-speaking neighborhood, dominated by renters and high rates of inflows and outflows). Only by rigorous testing can the Census Bureau be sure that the new technologies improve the quality of the census.
- Ramp-Up. After the period of testing, final decisions are made and then the ramp-up begins (T-1, T-2, and the census year). That ramp-up includes establishing field offices, printing

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<sup>1</sup> For a visual representation of the life cycle for the 2020 census, see [https://www2.census.gov/census\\_2020/overview/2020-lifecycle-chart.pdf](https://www2.census.gov/census_2020/overview/2020-lifecycle-chart.pdf).

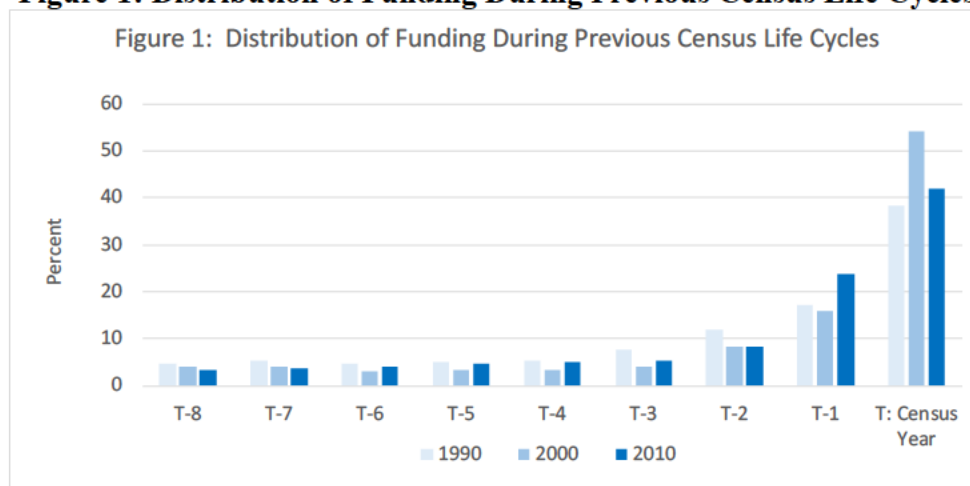


forms, developing and beginning a communications campaign, forming partnerships with local organizations across the country, and finishing and testing massive IT systems. In the census year itself, there is a spike in expenditures reflecting public outreach, fully deployed field offices and staff, and significant expenditures on following up with households that did not respond to the census (an operation called Non-Response Follow Up (“NRFU”).

- Post-Census. After the census year spending continues to prepare the final data files and to analyze the census that just occurred.

Figure 1 shows expenditure data for the previous three censuses (1990, 2000, and 2010) from 8 years prior to the census year and including the census year:

**Figure 1: Distribution of Funding During Previous Census Life Cycles**



The data in Figure 1 also shows the distribution of spending in a year relative to spending for any other year in the T-8 through to the census year funding cycle. That is, say for the 1990 census, Figure 1 shows the share of 1990 census spending in T-8, T-7, and so on.

Figure 2 depicts the amounts of funding in total dollars from those efforts as well as the equivalent funding for the 2020 census, all in inflation adjusted dollars, with the base year being 2020:<sup>2</sup>

<sup>2</sup> The 2020 data come from page 20, “2020 Census Life-cycle Cost Estimate Executive Summary, Version 2.0, June 2019”. The inflation adjustment is made using the Congressional Budget Office’s (CBO) measure of the price index for gross

**Figure 2: Census Spending for Prior Enumerations (in millions of 2020 dollars)<sup>3</sup>**

Census	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T
1990	342.0	379.8	339.2	350.8	387.1	539.0	862.6	1,231.4	2,763.5
2000	495.7	496.0	389.0	444.4	445.6	531.9	1,055.2	2,056.7	7,010.0
2010	679.3	766.4	848.0	981.9	1,024.4	1,110.6	1,754.7	4,986.7	8,746.9
2020	72.4	111.7	251.3	371.8	704.3	841.9	1,119.8	3,542.8	7,348.0

In contrast to prior years, the funding decisions made in connection with the 2020 Census reflect a significantly heightened desire to reduce costs dramatically in connection with conducting the census enumeration. This desire to reduce costs arose from the phenomenal increase in cost per housing unit witnessed during previous censuses; the average cost per housing unit in inflation adjusted dollars skyrocketed from \$16 in 1970 to \$98 in 2010 (all in 2010 dollars). Costs increased in part because of declining mail-response rates. These large cost increases were well known and often cited by two important watchdog agencies, the Government Accounting Office and the Commerce Department's Inspector General.<sup>4</sup> In response, the Census Bureau highlighted the potential cost savings from using new methods. In the FY 2015 budget submission (presented to Congress on March 2014), on page 125, the Department of Commerce stated, "Fiscal Year 2015 is a critical year for the Census Bureau in the attempt to incorporate innovations into the 2020 Decennial Census design that will significantly contain costs

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domestic product on a fiscal year basis. The analysis in this report also uses CBO's forecast for this price index in 2019 and 2020. The data can be found at <https://www.cbo.gov/system/files/2019-03/55022-2019-01-historicaleconomicdata.zip>. Within that zip file, the GDP deflator is located in Column N of Annual\_FY\_Jan19.csv.

<sup>3</sup> The funding figures in the 1990, 2000, and 2010 censuses may include the costs of the American Community Survey (part of the decennial census program) and may also contain some spending for associated with the previous censuses. However, the 2020 estimates contain costs only associated with the 2020 census. The main takeaways from Figures 1 and 2 though are robust to these caveats, and those main takeaways are that the decennial census funding cycle starts years in advance and increases dramatically within 2 years of the census year.

<sup>4</sup> For an example from the Office of Inspector General, see Zinzer (2011) <https://www.oig.doc.gov/OIGPublications/OIG-11-030-I.pdf>. For an example from the Government Accountability Office, see GAO (2010), <https://www.gao.gov/new.items/d11193.pdf>

while producing high quality data.”<sup>5</sup> In the text that follows, explicit cost savings estimates are presented that total \$5.1 billion compared to the projected cost of the census if these innovations were not incorporated.<sup>6</sup>

The overt emphasis on cost savings innovation during the 2020 life-cycle will, as explained below, degrade the overall quality of the 2020 census and will disproportionately impact racial and ethnic minority communities. The quality of the 2020 census would like be increased, and risks of a poor-quality census could be reduced, if funding in several key areas were to be increased.

#### **V. Failures to Adequately Fund and Perform Testing of New Methods for 2020**

For the 2020 Census, decisions were made in the early years (that is, before T-5, 2015) that the Census Bureau should leverage technology to reduce costs. Numerous fundamental changes from prior years made to the census design resulted from that decision to rely more heavily on technology. Many of those design changes enact drastic departures from practices that have become the norm in the modern-day census. Chiefly, these include: (i) a major shift from in-field to in-office canvassing in creating the master address file (“MAF”) (the list of all addresses of residences which serves as a major basis for the census); (ii) the use of the internet as the method for households to respond to census outreach, rather than using traditional mail-in responses; (iii) reduced efforts to count inhabitants of housing units that appear vacant or abandoned, which will instead be based on data from existing government sources; and (iv) a vastly reduced number of staff and local census offices to administer core census functions.

Generally speaking, given the massive scale of the census – coupled with the fact that there are no do-overs – it is vital to test *any* changes in a variety of environments and scales to ensure success when implemented in a census year. The most prominent example over the past 40 years of the Census Bureau

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<sup>5</sup> See page 125 of <http://www.osec.doc.gov/bmi/budget/FY15CJ/CensusFY2015CJFinal.pdf>.

<sup>6</sup> Ibid.

attempting a major technological change in how it conducts a census occurred in the 2010 Census. In that census, the Census Bureau proposed, and spent significant sums, developing and testing a handheld device that could be used by field workers. For a variety of reasons, the Census Bureau opted to drop the handheld device, a decision which increased the cost of the 2010 Census by billions of dollars late in the funding cycle.<sup>7</sup>

Any one of the changes undertaken by the Census Bureau in 2020 would have required substantial research and testing to obtain a reasonable understanding of their potential impact. And given that the 2020 Census plans to incorporate more substantial changes than any comparable previous census, research and testing is even more important than in prior censuses. In other words, the 2020 Census will deploy and utilize a host of new technologies and approaches, so adequately testing them at scale was imperative to reduce the risk that those technologies would operate ineffectively at the time of the census.

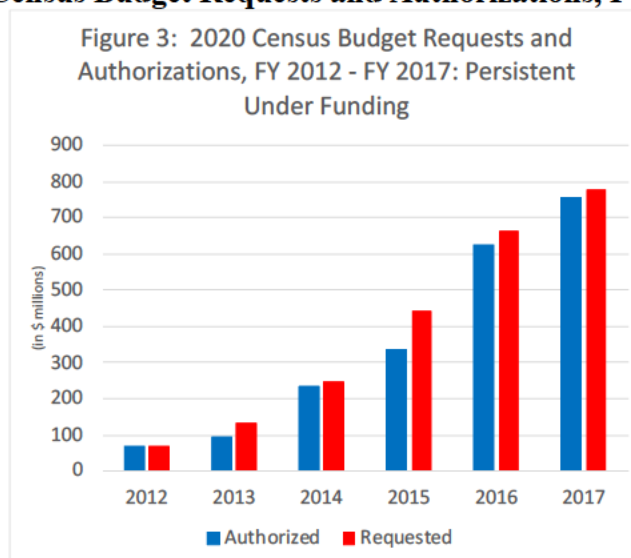
Nevertheless, budgetary constraints arose during the course of census planning and research that significantly curtailed this testing, including restrictions on funding by the administration, inadequate funding by Congress, and uncertainty over funding. The funding environment has led to test cancellations that have impaired the ability of the Census Bureau to adequately assess the numerous design changes it has undertaken, leaving the Census Bureau without an adequate basis to predict what sorts of additional resources from prior years will be needed.

#### **A. Funding Shortfalls**

Between FY 2012 and FY 2017, the Census Bureau consistently stated in its budget request that funding was needed in order to research and test the new innovations discussed above. However, the Bureau's budget requests, were consistently not met, leaving the Bureau underfunded, as shown in Figure 3. Over this 6-year time period, the 2020 Census program was underfunded by an average of 9.4%.

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<sup>7</sup> The House Oversight Committee issued a chronology of the events surrounding the handheld device debacle, <https://oversight.house.gov/sites/democrats.oversight.house.gov/files/migrated/20080409140918.pdf>

**Figure 3: 2020 Census Budget Requests and Authorizations, FY 2012 – FY 2017**

### **B. Funding Uncertainty**

Another factor affecting Census Bureau decisions has been uncertainty over funding based on how much it expected Congress to appropriate to the Bureau. The Census Bureau, like any federal agency, hesitates to commit to a large increase in expenditures, such as a future census field test, if there is great uncertainty over future funding. Such was the case in the fall of 2016. Congress had failed to pass a full year authorization for FY 2017 (which began October 1, 2016 and ran through September 30 2017). Instead, Congress passed, and the President signed, a continuing resolution for funding from October 1 through December 9, 2016 at funding levels 0.496% below FY 2016 funding rates.

### **C. Testing Cancellations**

Faced with funding shortfalls and funding uncertainty the Census Bureau ultimately cancelled critical tests that were needed to assess the changes it was planning.

Field Test Cancellation. On October 18, 2016, Census Bureau Director John Thompson wrote in the Census Bureau's Director's Blog: "Today, the U.S. Census Bureau announced that it will stop plans to test field operations in Puerto Rico, the Standing Rock Reservation in North and South Dakota, and the Colville Reservation and Off-Reservation Trust Land in Washington State in 2017. Instead, we will

consider including these sites in our 2018 End-to-End Census Test.”<sup>8</sup> But, as discussed below, these three sites were not included in the 2018 End-to-End test.

Further in the blog post, Director Thompson stated: “Given the current uncertainty about FY 2017 funding, the Census Bureau will not continue expending resources to prepare for the 2017 field tests. Continuing amid such uncertainty would all but guarantee wasted efforts and resources.”<sup>9</sup>

There were two main, problematic sets of consequences from these cancellations.

The first is simply the lost opportunity to learn about the efficacy and effect on quality of new procedures and technologies. According to the Version 1.0 of the 2020 Operational Plan (released November 2015): “The 2017 Census Test is planned to be an operational study of address canvassing, self-response, and Nonresponse Followup procedures. It will have a Census Day of April 1, 2017 and will cover various geographic areas across the nation with a specific focus on one urban area, two American Indian Reservations, and Puerto Rico.”<sup>10</sup> In other words, the cancelled 2017 tests were supposed to focus on address canvassing and NRFU procedures, two areas where large changes were being planned. Testing cancellations deprived the Census Bureau of the ability to assess its new procedures and their impact.

The second negative consequence stems from the fact that the 2017 cancellation sites were in particularly hard-to-count communities (communities where response rates often lag and undercounts remain substantial). When assessing the impacts of changes in census procedures, it is vital to know the differential effects those new procedures will have across different communities. The 2017 cancellations greatly diminished the potential knowledge gains in this area. Regarding the 2017 cancellations, Lisa

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<sup>8</sup> See “U.S. Census Bureau Announces Changes to 2017 Field Tests”, [https://www.census.gov/newsroom/blogs/director/2016/10/u\\_s\\_census\\_bureaua.html](https://www.census.gov/newsroom/blogs/director/2016/10/u_s_census_bureaua.html)

<sup>9</sup> For a fuller description of this decision, see the memo by Lisa Blumberman, the Census Bureau’s Associate Director for Decennial Programs, on the cancellations: [https://www2.census.gov/programs-surveys/decennial/2020/program-management/memo-series/2020-memo-2016\\_21.pdf](https://www2.census.gov/programs-surveys/decennial/2020/program-management/memo-series/2020-memo-2016_21.pdf)

<sup>10</sup> See page 47 of 2020 Census Operational Plan, November 2015, Version 1.1, <https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/2020-oper-plan.pdf>

Blumerman, then the Associate Director for Decennial Census Programs, stated, “It remains critical to test Spanish language systems and non-traditional addressing in Puerto Rico and the ability to list and enumerate at non-traditional addresses on tribal reservations.”<sup>11</sup> Again, these areas were not subsequently added to the 2018 end-to-end test.

Drastic Scale Back of the 2018 End-to-End Test. Before the actual decennial census in 2020, the Census Bureau had long planned to conduct a large-scale test two years prior, referred to as an “end-to-end” test. The goals of the end-to-end test, according to the Census Bureau, included:

- (1) “To test and validate 2020 Census operations, procedures, systems and field infrastructure to ensure proper integration and conformance with functional and non-functional requirements.
- (2) To produce a prototype of geographic and data products.
- (3) To validate the 2020 Census design and cost estimate.”<sup>12</sup>

On July 22, 2016, the Census Bureau announced that its 2018 End-to-End test would take place in three locations; Pierce County, Washington; Providence County, Rhode Island; and the Bluefield-Beckley-Oak Hill, West Virginia. The initial goal of the 2018 test was to canvas 700,000 housing units. Given the number and degree of changes in proposed census operations, conducting large scale tests was essential to making sure the new procedures would work and to understanding what effect they have on quality, including their effect on the undercount of different types of communities.

But the scale of the 2018 test was drastically restricted in response to funding shortfalls. The funding shortfall arose from the Administration requesting less funding for the Census Bureau than the Census Bureau deemed necessary. In response to the Administration’s imposed curtailment, the Census Bureau stated in its FY 2018 budget passback: “In order to provide adequate funding for systems

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<sup>11</sup> See the memo by Lisa Blumerman, then the Census Bureau’s Associate Director for Decennial Programs, [https://www2.census.gov/programs-surveys/decennial/2020/program-management/memo-series/2020-memo-2016\\_21.pdf](https://www2.census.gov/programs-surveys/decennial/2020/program-management/memo-series/2020-memo-2016_21.pdf)

<sup>12</sup> See <https://www.census.gov/newsroom/press-releases/2016/cb16-126.html>



development and infrastructure, we will reduce the 2018 End-to-End Census from three sites to one site. We also removed advertising and partnerships, as well as the coverage measurement operation, from this final test.”<sup>13</sup> The single site where the limited end-to-end test would take place was Providence County, Rhode Island.

The scaled back test had several, significant disadvantages for assessing the potential quality of the 2020 Census. First, the sample size of the 2018 test was only 39.5% of the 700,000 housing units that the Census Bureau had previously stated that it wanted to canvas.<sup>14</sup> Second, by focusing on just one site, Providence County, the Census Bureau lost the ability to ascertain how its new technologies would fare in different environments. Third, the 2018 test removed advertising and partnerships, an area that is particularly important in light of falling response rates to surveys generally and the lack of trust in government surveys in particular.<sup>15</sup>

Fourth, the accuracy of the 2018 test was not ascertained because the Census Coverage Measurement (CCM), the procedure used to determine the accuracy of the census after the fact, was cancelled.<sup>16</sup> Therefore, because of funding restrictions, the accuracy of the test has gone fundamentally unassessed. This has prevented the Census Bureau from making informed decisions with a reasoned basis about how to enumerate the population with new and untested methods; in particular information has been lost on how new Census Bureau procedures could affect the Bureau’s ability to accurately count subpopulations that are likely to be especially affected by those methods.

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<sup>13</sup> See page 1 of U.S. Census Bureau FY 2018 OMB Fiscal Guidance Executive Summary.

<sup>14</sup> Calculation based on number of housing units covered in the 2018 end-to-end test as reported in: <https://www2.census.gov/programs-surveys/decennial/2020/program-management/pmr-materials/10-19-2018/pmr-welcome-high-level-updates-2018-10-19.pdf>

<sup>15</sup> See the 2018 2020 Census Barriers, Attitudes and Motivators Study, [https://www.census.gov/programs-surveys/decennial-census/2020-census/research-testing/communications-research/2020\\_cbams.html](https://www.census.gov/programs-surveys/decennial-census/2020-census/research-testing/communications-research/2020_cbams.html)

<sup>16</sup> The CCM is a process in which a sample of housing units are re-canvassed to obtain measures of overall accuracy, and it is the CCM that allows the Census Bureau to derive measures of overcounts and undercounts.



## **VI. Cuts in Key Programs and Staffing**

In each census, going back to 1790, a large, temporary workforce has been employed to ensure as complete coverage as possible. The 2020 Census is taking steps to change that approach. In implementing the various design changes, a key aspect of the Census Bureau's revised approach has been to drastically reduce its reliance on boots-on-the-ground staff for the numerous purposes for which they have historically been put to work. An overarching premise behind those severe reductions in human resources for census programs appears to be that reliance on technology and data can displace the use of human beings. The Census Bureau, however, as described above, has not done sufficient testing to understand the extent to which those changes will adversely affect its ability to accurately enumerate the population as a whole or particular subgroups within the population.

### **A. Reduction in Regional Field Offices**

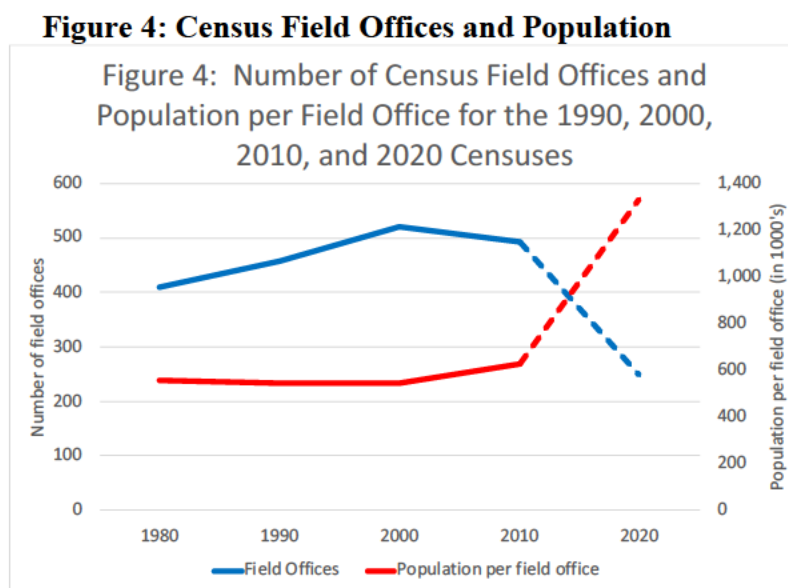
Each census requires the establishment of a large number of field offices to manage thousands of staff, distribute materials, handle forms, conduct community outreach, and complete other tasks.

At the most basic level, the 2020 Census's plan to reduce headcount is illustrated by the drastic reduction in the number of field offices. For the 2010 Census, the Census Bureau opened 12 Regional Census Centers (RCCs) and 495 Local Census Offices (LCOs), including one in Puerto Rico. Each congressional district contained at least one LCO (435), and a further 59 were opened to even the spread of work across offices. By contrast, for the 2020 Census, the Census Bureau plans cut the number of offices roughly in half: 6 RCCs and 248 smaller offices (for the 2020 Census, the Census Bureau changed the name of these smaller offices to Area Census Offices (ACOs)).

The reduction in field offices is stark, especially in light of a growing population: from 1990 to 2010, the size of the population served by a given field office (the red line) increased modestly and in 2010 there was one office per 626,000 people. This is comparable to having one office for the population of a modestly large city such as Baltimore, MD (population of 621,000 in the 2010 Census) or Boston,

MA (618,000). For the 2020 Census, the average projected population per census office will increase by 112% from 2010 to 1,331,000 people per census office. This is akin to having one office serve a city the size of San Diego (population of 1,307,402 in 2010 Census).

Figure 4 shows the pattern of field offices over several censuses, and the drastic nature of the cuts for 2020 in light of population changes:



One of the factors in reducing the number of ACOs was cost. In 2010, the costs of the LCOs totaled \$331 million. Figure 5 shows the number of field offices and expenditures for field offices for prior years, and expected for 2020:

**Figure 5: Field Offices and Field Office Spending**

Census	Number of Field Offices	Funding (in millions)
2000	520	\$134
2010	494	\$331 <sup>17</sup>
2020	248	

<sup>17</sup> The 2010 cost figure came from 2020 Census: Issues Observed During the 2018 End-to-End Census Test's Address Canvassing Operation Indicate Risk to Address List Quality, Final Report No. OIG-19-008-A, February 6, 2019, <https://www.oversight.gov/sites/default/files/oig-reports/archive/17803//OIG-19-008-A.pdf>

<sup>18</sup>

Concern over the number of proposed ACOs has been raised by the Department of Commerce's Office of the Inspector General (OIG). On April 30, 2018, the OIG issued a report, *2020 Census: The Number and Location of Area Census Offices May Not Reflect NRFU Workload Demands and Will Not Result in Projected Cost Savings* Final Report No. OIG-18-018-A, that raised a set of concerns the Census Bureau's plan for ACOs.<sup>19</sup>

One of the most significant concerns the OIG raised was the Census Bureau's decision to adhere to their decision to stay with 248 ACOs despite significantly increasing their assumptions about workloads for in-field enumeration.

**Figure 6: ACO Table**

**Table 2. Input Variables Used to Determine the Number of ACOs**

Input Variable	Field Division Calculation May 2016	2020 Census Life Cycle Cost Estimate December 2017	Percent Increase
Number of addresses	46,223,803	55,140,004	19%
Number of visits	98,023,991	136,253,268	39%
Number of core enumerators	173,021	256,336 <sup>a</sup>	48%
Enumerator per office ratio	735	1,034 <sup>a</sup>	41%
Number of offices	248 <sup>b</sup>	248	0%

Source: OIG analysis of U.S. Census Bureau information

<sup>a</sup> OIG calculation based on the 2020 LCCE Assumption Table.

<sup>b</sup> The Bureau decided to open 248 offices based on the enumerator per office ratio and after ensuring compliance with the criteria and consulting with the regional offices.

As shown Figure 6, copied directly from the OIG report, between 2016 and the end of 2017, the Census Bureau significantly increased their assumptions about the number of addresses to be visited, and the number of core enumerators.<sup>20</sup> Indeed, the Census Bureau increased their assumptions about the number of core enumerators by 48% and the number of visits by 39%, but the Census Bureau chose to keep the number of offices the same, vastly increasing the operational responsibility per office. The

<sup>19</sup> See <https://www.oig.doc.gov/OIGPublications/OIG-18-018-A.PDF>

<sup>20</sup> The OIG report uses the concept of "core enumerators", which they define as "field staff who are expected to still be working 3 weeks into the operation." (page 4, footnote 8 of <https://www.oig.doc.gov/OIGPublications/OIG-18-018-A.PDF>)

Census Bureau has no practical experience in dealing with such a phenomenal increase in average office expanse, introducing considerable risk that the more limited number of field offices will not be able to adequately cope with their increased responsibility and to be able to deal with unexpected challenges.

The field offices also play a critical role in helping to organize the large workforce of employees necessary for numerous aspects of the census process. While the 2020 Census will drastically reduce the size of the workforce for various roles, as discussed below, the reduction in the number of offices is greater (proportionately) than that in workforce size, implying that the number of employees per office will increase significantly. This raises concerns about whether the offices will be able to sufficiently supervise a larger number of employees.

#### **B. Restricting “In-Field” Canvassing for the Master Address File**

One of the most critical components of a high quality population census is ensuring that the Census Bureau has a complete and accurate master list of residences – known as a master address file (“MAF”). The MAF is core to the enumeration process because it is used as the list of addresses to which the Census Bureau mails census questionnaires seeking a “self-response” and it is the list of addresses that census workers subsequently seek to enumerate if the household does not respond. Constructing that list of files has historically relied on human beings to canvass neighborhoods to ensure to the extent possible that the list accurately reflects the reality of where people live. For example, the existing census records could show that there are 10 addresses on a particular city block, but a human enumerator has historically been used to determine whether, based on changes to a neighborhood, there are actually 12 or 13 actual addresses. In 2010, the address canvassing operation (ADC) added 6.6 million new addresses to the MAF through the work of human beings who canvassed blocks to register addresses.<sup>21</sup>

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<sup>21</sup> See 2010 Census Address Canvassing Operational Assessment Report, page 87, [https://census.gov/library/publications/2012/dec/2010\\_cpex\\_168.html](https://census.gov/library/publications/2012/dec/2010_cpex_168.html)

As noted, historically, one of the key components to creating the MAF involved hiring over 100,000 people to walk/drive every street and block, noting the location and characteristics of every residence. Usually this massive operation, referred to as “In-Field Address Canvassing”, would occur about one year before Census Day (Census Day is April 1 in years ending in 0). In 2009, for instance, 111,105 “listers” (the people who walk/drive the streets), managed by 8,213 crew leaders, conducted the previous in-field address canvassing. A further 37,784 listers managed by 3,083 crew leaders were hired for quality control.<sup>22</sup> In total, 137.4 million miles were driven by this large army of workers.<sup>23</sup>

Funding for this effort has been a significant component of past census efforts, which have generally taken the same approach as in 2010:

**Figure 7: Funding for In-Field MAF Canvassing**

Census	Funding
2000	\$390,000,000
2010	\$444,000,000
2020	[REDACTED]

For the 2020 Census, this operation is a target for funding cuts. Instead of sending 100,000+ thousand temporary listers on America’s streets, the approach for the 2020 Census is to drastically reduce reliance on in-field canvassing, and instead to use technology and satellite imagery to update the MAF databases, all of which can occur “in-office” instead of “in-field”. The databases used for in-office address updating includes data drawn from the Post Office, administrative records, private vendors, and satellite imagers. As in the past, the Census Bureau will also work with local governments to update and verify addresses. The basic approach for the 2020 Census is for the Census Bureau to update the MAF

<sup>22</sup> See 2010 Census Address Canvassing Operational Assessment Report, page xii, [https://census.gov/library/publications/2012/dec/2010\\_cpex\\_168.html](https://census.gov/library/publications/2012/dec/2010_cpex_168.html)

<sup>23</sup> See 2010 Census Address Canvassing Operational Assessment Report, page xii, [https://census.gov/library/publications/2012/dec/2010\\_cpex\\_168.html](https://census.gov/library/publications/2012/dec/2010_cpex_168.html)

<sup>24</sup>

continuously through time by using these databases instead of deploying a huge, one-time workforce to walk every block. By updating the MAF in a more automated and continuous way, the Census Bureau aims to reduce the costs associated with compiling the MAF.<sup>25</sup>

Utilizing technology and outside databases could, in theory, produce a MAF more accurate than in-field operations. However, in-field canvassing does appear to actually reduce MAF errors as the Census Bureau has continued to increase its estimate of the percentage of households that will need to be covered in-field. A review by the Office of the Inspector General, also shows that based on initial testing in-office canvassing is actually leading to incorrect results.<sup>26</sup> Finally, as discussed below, Census Bureau documents explicitly discuss a cost-quality trade-off, indicating that the Bureau is knowingly sacrificing quality to cap costs.

In past years, in-field canvassers visited nearly all living quarters to vet their inclusion on the MAF. The 2020 Census will reduce the number of living quarters visited based on the decision to use the data mentioned above. However, the Bureau's estimates for the share of living quarters that will need to be canvassed in field has continued to mount, suggesting that in-office address canvassing may be less effective than expected. The December 31, 2015 Census Bureau publication, "2020 Census Detailed Operational Plan for the Address Canvassing Operation" stated that under its plan "[a]t most twenty-five percent of the living quarters will be canvassed in the field."<sup>27</sup> In the "2020 Census Detailed Operational Plan for Address Canvassing Operation," which was released on May 9, 2018, that estimate was increased

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<sup>25</sup> See <http://www.osec.doc.gov/bmi/budget/FY15CJ/CensusFY2015CJFinal.pdf>

<sup>26</sup> 2020 Census: Issues Observed During the 2018 End-to-End Census Test's Address Canvassing Operation Indicate Risk to Address List Quality, Final Report No. OIG-19-008-A, February 6, 2019, pp. 3-4, <https://www.oversight.gov/sites/default/files/oig-reports/archive/17803/OIG-19-008-A.pdf>

<sup>27</sup> See page 7 of, <https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/address-canvassing-plan.pdf>

to “approximately 30 percent.”<sup>28</sup> In the most recent version of the operational plan, released December 2018, the percentage of living quarters that will be addressed in-field was reported to be 38.4%.<sup>29</sup>

In terms of personnel and funding, the Census Bureau estimates that in-field address canvassing will cost [REDACTED] When the Census Bureau released its FY 2015 budget request, they stated that for field engineering relating to address canvassing, the “[Estimated savings range from \$50 million to \$590 million].”<sup>30</sup> However, these savings may not be fully realized, as the Census Bureau has since revised the portion of in-field address canvassing from 25% to 38%. It has been reported that the Census Bureau will hire approximately 50,000 listers to canvass the 38.4% of housing units, about 1/3 of the number used in the 2010 Census.<sup>31</sup>

**Despite the Census Bureau’s announcement that it will now canvass 38.4% of addresses in field, it remains unclear how that figure was determined and what trade-offs between costs and quality have been made.** For instance, the Census Bureau has not released the expected error rates in the remaining 61.6% of housing units that will not be canvassed in the field. According to the “Quality Analysis” section of the Operational Plan, the Census Bureau states, “an analysis of the impact on the quality of the census results is required to ensure that innovations designed to reduce cost do not have an unacceptable impact on quality.” However, nowhere is “unacceptable impact on quality” defined. Further, although the “Quality Analysis” section discusses the basic approach to measuring cost/quality tradeoffs, the results from the simulations are not presented to the public.

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<sup>28</sup> See page 32 of [https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/ADC\\_detailed\\_operational\\_plan\\_v2.0.pdf](https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/ADC_detailed_operational_plan_v2.0.pdf).

<sup>29</sup> See page 184 of <http://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/2020-oper-plan4.pdf>

<sup>30</sup> See page CEN 128 of US Census Bureau’s FY 2015 Budget Estimates, <http://www.osec.doc.gov/bmi/budget/FY15CJ/CensusFY2015CJFinal.pdf>

<sup>31</sup> See [https://www.washingtonpost.com/graphics/2019/national/census-2020-technology/?utm\\_term=.4b5c15acc564](https://www.washingtonpost.com/graphics/2019/national/census-2020-technology/?utm_term=.4b5c15acc564)

To reiterate, the Census Bureau acknowledges that quality will be reduced by relying on new techniques, such as in-office canvassing, that are prone to errors. What is especially problematic is the lack of information released by the Census Bureau about how these errors are distributed across different communities. Given the persistent differential undercounts of racial and ethnic minorities, the Census Bureau is inviting an unjustified risk that in-office canvassing will exacerbate these undercounts, when the Bureau can instead simply increase the size of the in-field address canvassing operation and reduce such risk.

There are other issues with the Census Bureau's approach to obtaining the address frame. The OIG found that during the 2018 End-to-End Test, listers made many mistakes in identifying the blocks that needed to be canvassed, which raises the question of whether performing only partial in-field address canvassing raises additional risks as opposed to the approach of doing a complete, 100%, in-field address canvassing as in previous censuses.<sup>32</sup>

According to the most recent version of the Operational Plan, in-field canvassing will take place in Q3/Q4 of 2019, allowing the Census Bureau the opportunity to increase the scope of its in-field address canvassing operation and increase the quality of the 2020 Census.<sup>33</sup>

### **C. Drastically Reduced Field Staff for the Census's NRFU Operations**

One of the core functions of the census temporary workforce is to carry out the NRFU process. Generally speaking, the counting process for the census begins by sending a response form to all households listed in the master address file ("MAF"). But not all households respond to this request for self-response. Thus, the NRFU process is undertaken to follow up with non-responding households and

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<sup>32</sup> See 2020 Census: Issues Observed During the 2018 End-to-End Census Test's Address Canvassing Operation Indicate Risk to Address List Quality, Final Report No. OIG-19-008-A, February 6, 2019, <https://www.oversight.gov/sites/default/files/oig-reports/archive/17803/OIG-19-008-A.pdf>

<sup>33</sup> See Figure 24, page 53 of 2020 Census Operational Plan, Version 4.0, December 2018, <http://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/2020-oper-plan4.pdf>



enumerate them. The temporary workforce is enlisted to visit non-responding households to ensure that they are counted. That workforce has been substantial for recent censuses given historically high and increasing rates of non-response. The approach of the 2020 Census, however, is to scale back from a long-tested reliance on a large number of temporary workers.

### 1. Cutting Reliance on Human Resources

In more recent censuses, the word “enumerator” has been used to describe people who physically visit (or sometimes phone) housing units to assist with the enumeration. As the country’s population has grown, the number of enumerators has also increased. In more recent times, the Census Bureau has hired about a half a million enumerators for each census:

**Figure 8: Numbers of Enumerators<sup>34</sup>**

Census	Number of Enumerators
1980	~460,000
1990	552,525
2000	~500,000
2010	516,709

The funding for this component of the census has been as follows:

**Figure 9: Funding for Enumerators**

Census	Enumerator Staff Funding (in \$millions) <sup>35</sup>
1990	\$520
2000	\$1,100
2010	\$1,589.4

<sup>34</sup> The 1990 and 1980 figures came from *1990 Census of Housing and Population: A History*, <https://www.census.gov/history/pdf/1990procedurallhistory.pdf>

<sup>35</sup> The 2000 and 2010 figures from 2010 CENSUS PLANNING MEMORANDA SERIES No. 190, 2010 Census Nonresponse Followup Operations Assessment Report. The 1990 estimate comes from <https://www.census.gov/history/pdf/Census2000v1.pdf>, “Nearly 20 percent of the \$2.6 billion cost of the 1990 census was spent on NRFU”, page 13 of Chapter 1.

As noted in Figure 9, the 2010 Census enlisted 516,709 enumerators, but it also hired 94,107 managers for those enumerators. For 2010, this workforce was tasked with a caseload of canvassing 47.2 million housing units, 40.2% of all housing units. As depicted in Figure 10, for the 2020 Census, the Census Bureau is planning a 32.6% drop in the NRFU workforce. Based on other Census Bureau estimates, the Census Bureau is planning to reduce the number of supervisors at an even more aggressive rate than that for enumerators. Based on those outdated figures, the Census Bureau was planning a 26.2% reduction in NRFU enumerators and a 75.8% drop in the number of supervisors.<sup>36</sup> [REDACTED]

[REDACTED]

[REDACTED]

However, as mentioned elsewhere in this report, it is just not the drop in the number of trained enumerators, but how much the Census Bureau believes they will be utilized (the concept of core enumerators becomes important here, that is, how many enumerators will be used to a considerable extent). To better get at utilization, one metric is funding (the more NRFU enumerators work, the more they are paid). [REDACTED]

[REDACTED]

[REDACTED]

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<sup>36</sup> These calculations are based on numbers from page 67 of 2020 Census Detailed Operational Plan for: 18. Nonresponse Followup Operation (NRFU)

<https://www.census.gov/programs-surveys/decennial-census/2020-census/planning-management/planning-docs/NRFU-detailed-op-plan.html>, and page 222 of

[https://www.census.gov/content/dam/Census/library/publications/2012/dec/2010\\_cpex\\_190.pdf](https://www.census.gov/content/dam/Census/library/publications/2012/dec/2010_cpex_190.pdf)

<sup>37</sup> [REDACTED]

**Figure 10: 2010 and 2020 NRFU Jobs**

2010 Census		2020 Census (projected)	2020-2010 Change	
			Change in number	Change in percent
Self response rate	63.5%	60.5%		
Housing units (millions)	133.5	146.2	+ 12.8 million units	
Total NRFU workforce	704,923	475,000		
NRFU Cost (in \$millions)	1,589.40	1,437.90		
Inflation-adjusted NRFU Cost (in 2020 \$millions )	1,898.00	1,437.90		

These planned, significant reductions are occurring despite the Census Bureau's anticipation of two forces that will significantly increase the demand for enumerators. First, recent estimates predict that the expected self-response rate for the 2020 Census will be lower than in past years, which makes the need for additional personnel important. By its own account, the Census Bureau's anticipated self-response rates are expected to fall by 3 percentage points in 2020 from 2010 (63.5% to 60.5%). Census testing has shown that rates for the Black community will be considerably worse than this overall average. A 2018 Census Report shows that 73% of Black households have an internet subscription compared to 84% of Non-Hispanic White households.<sup>38</sup> Further, the Census Bureau's Presentation to the National Advisory Committee on May 2, 2019 reports that the average self-response rate for the End-to-End Test was 56%, whereas the response for Black individuals was only 39%.<sup>39</sup> The report further notes that Black individuals who responded did so via the internet 54% of the time. Together, this means that only 21% of the Black population responded using the internet.

There is also considerable risk that the 2020 response rate will fall below 60.5%. The Census Bureau acknowledges this risk; indeed it is the first risk listed in its Operational Plan.<sup>40</sup> Further, the 2020

<sup>38</sup> U.S. Census Bureau. (2018b). Computer and internet use in the United States: 2016. American community survey reports, by Camille Ryan, ACS-39 (August 2018).

<sup>39</sup> Albert E. Fontenot, Jr., Associate Director, Decennial Census Programs, *Update on the 2020 Census: Presentation to the National Advisory Committee*, pp. 3-4 (May 2, 2019).

<sup>40</sup> See page 173 of 2020 Decennial Operational Plan, Version 4.0, December 2018, <http://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/2020-oper-plan4.pdf>

Census Barriers, Attitudes and Motivators Study showed that the population harbors significant concerns over privacy, confidentiality, and fear of repercussions from filling out the census questionnaire, in addition to heightened distrust in government generally.<sup>41</sup> Falling response rates across a wide variety of surveys and survey methods have been well documented.<sup>42</sup> However, the Bureau has done little to mitigate this risk, especially in hard-to-count communities such as those with large numbers of racial and ethnic minorities. The Census Bureau has also failed to provide a publicly available analysis of how it derived its 60.5% estimated response rate despite the unimpressive response rates in recent tests and trends of declining self-response. During the first two months of the 2018 end-to-end test, response rates remained considerably below 50%,; response rates only rose slightly over 50% about three months into the test.<sup>43</sup>

Second, demands on the NRFU workforce will likely increase as the number of housing units is set to rise by approximately [REDACTED]<sup>44</sup> If the Census Bureau were to employ the same NRFU strategies in 2020 that they did in 2010, the projected NRFU caseload would increase approximately [REDACTED] based on declining self-response rates and the increased number of housing units. Even with the changes intended to improve efficiencies – although without adequate testing it is not possible to conclude that such changes will actually do so – the Census Bureau estimated in December 2017 that the NRFU caseload would increase [REDACTED] The reduced number of supervisors may exacerbate this potential human resources gap.

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<sup>41</sup> See <https://www.census.gov/programs-surveys/decennial-census/2020-census/planning-management/final-analysis/2020-report-cbams-study-survey.html>

<sup>42</sup> For instance, the National Academies has undertaken a research program on this topic, <https://www.nap.edu/catalog/18293/nonresponse-in-social-science-surveys-a-research-agenda>

<sup>43</sup> See slide 25 of <https://www2.census.gov/programs-surveys/decennial/2020/program-management/pmr-materials/08-03-2018/pmr-update-testing-08-03-2018.pdf>

<sup>44</sup> [REDACTED]

By its own figures, the Census Bureau is planning to *reduce* its enumerator workforce by 32.6% while also anticipating that the underlying demand for NRFU resources will *increase* by 16.8% and perhaps by much more if response rates fall below expectations.

## 2. Using Unreliable, Untested Administrative Data

How then does the Census Bureau plan to address these two opposing forces: a significantly smaller enumerator work force facing underlying increased demand?

The basic answer provided by the Census Bureau is that a number of changes in how the census is conducted will significantly reduce the demand for enumerators. A key component of that approach will be the use of administrative data (such as tax returns and participation in social programs) to reduce the demand for NRFU operations. First, administrative data will be used to better model which housing units are vacant or should be deleted from consideration. The Census Bureau estimates that this alone will reduce NRFU demand by 8%. Administrative data will also be used to limit follow ups to occupied housing units: if the administrative data for a housing unit meets a certain threshold, then NRFU enumerators will make only one visit to that housing unit; if they fail to get a response then administrative data will be used. This procedure is expected to reduce overall NRFU demand by 5%.

This procedure poses significant problems. The determination of whether or not housing units are vacant or actually exist is essential to conducting a high-quality census and is an area where the Census Bureau made significant operational changes for 2020 compared to previous censuses. The Bureau defines vacant and non-existent units as:<sup>45</sup>

- Vacant units. Vacant housing units are livable housing units that on April 1 (Census Day) are not occupied. For instance, apartments that are unoccupied but available for rent or for houses

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<sup>45</sup> In the remainder of this report, the vacant and delete housing units will be referred to as “vacant/delete”, consistent with the language in many Census Bureau reports.

for sale and unoccupied on April 1 are examples of vacant housing units. In 2010, the NRFU workforce identified 14.2 million housing units as vacant.

- Non-existent units. In 2010, the NRFU workforce identified another 4.0 million housing units for “delete”. For example, these housing units include structures that are not habitable, have been demolished, do not exist, and empty mobile home sites.

Given the large numbers of vacant/delete housing units, relatively small error rates in correctly identifying housing units as vacant/delete can generate significant errors for the census as a whole. In recognition of the importance of accurately determining the status of a housing unit, past censuses committed significant resources to having the NRFU workforce ascertain the true status of housing units. For instance, in the 2010 Census, 34.8% of all NRFU contact attempts were devoted to housing units deemed vacant or delete.<sup>46</sup> In 2010, the NRFU workforce typically attempted multiple contacts at vacant properties; in 59.1% of the cases, more than one visit was made. The 2010 Census also had a program, Vacant Delete Check (VDC), whose purpose was to verify the vacant/delete findings from the NRFU staff. According to the 2010 NRFU summary: “One purpose of VDC was to verify the status of cases identified during NRFU as vacant or nonexistent on Census Day. Vacant and nonexistent housing units are required to be verified to ensure that housing units are not misclassified and people are not missed.”<sup>47</sup> In total, the 2010 VDC operation handled 8.7 million cases, 5.6 million of which followed up from NRFU operations. The cost of the VDC operation in 2010 totaled \$281.7 million (14.0% of the total NRFU budget).

Given the large amount of the NRFU workload spent on vacant/delete cases and the cost of the VDC, the Census Bureau targeted this area for budget reduction, as touted in all the versions of the 2020

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<sup>46</sup> From Table 18, page 61, of 2010 Census Nonresponse Followup Operations Assessment Report, [https://www.census.gov/2010census/pdf/2010\\_Census\\_NRFU\\_Operations\\_Assessment.pdf](https://www.census.gov/2010census/pdf/2010_Census_NRFU_Operations_Assessment.pdf)

<sup>47</sup> From page 20, of 2010 Census Nonresponse Followup Operations Assessment Report.

Operational Plan beginning with version 1.1 released in November 2015. The original proposal in version 1.1 of the Operational Plan called for using administrative data extensively to identify vacant/delete and to remove those cases entirely from the NRFU workload. Specifically, the Bureau intended that: “[t]he Administrative Records Modeling team will utilize predictive model approaches to identify vacant, non-housing, and occupied units. Examples of variables in the model include Undeliverable-as-Addressed information from the USPS, presence of person records on administrative record and third-party files, and information about the address from the Master Address File and American Community Survey 5-year estimates for the block group. This model will predict the probability of a unit being occupied, vacant, or a non-housing unit.”<sup>48</sup> Even though this approach had not been highly tested, the Bureau initially intended for this procedure to reduce the overall demand for the NRFU workforce by 5%.

However, in the most recent version of the Operational Plan (version 4.0), the Bureau has scaled back plans to use administrative data to remove vacant/delete units from the NRFU workload. Instead, the Plan states that those units identified as vacant/delete according to the statistical models will receive one visit by a NRFU employee. The current plan reads: “[a]ddresses determined to be vacant or nonexistent from the administrative records modeling will receive at least one visit during NRFU. If the one NRFU visit indicates that the HU is occupied, that address will remain in the NRFU workload for subsequent visits, as necessary. If the NRFU visit indicates that the HU is indeed vacant or nonexistent, the address will be removed from the NRFU workload and will not receive any additional visits.”<sup>49</sup>

Several issues arise with this most recent change.

First, in 2010, ascertaining the status of vacant/delete households most often took more than one visit: in 9.8 million cases, two or more visits were required. That means that under the current plan those

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<sup>48</sup> 2020 Census Detailed Operational Plan for: 18. Nonresponse Followup Operation (NRFU), April 2018, at page 9.

<sup>49</sup> Page 123 found in the 2020 Census Operational Plan, Version 4 within <https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/2020-oper-plan4.pdf>.

units that would normally require more than one visit would likely be deemed vacant. If additional resources were deployed as in 2010, the Bureau could prevent such removals and improve quality.

Second, the Census Bureau originally based its NRFU workforce on an estimate that relying on administrative records and NOT following up with NRFU staff would reduce the NRFU workload by 8%. How much the NRFU workload would increase from the most recently announced strategy remains unclear. However, it is clear that the current strategy would place even greater burdens on the 248 field offices.

More generally, the use of administrative records in vacant/delete determination is a classic example of a cost-quality tradeoff, and indeed, the “cost-quality tradeoff is explicitly estimated in a Census Bureau research paper, *An Approach for Using Administrative Records to Reduce Contacts in the 2020 Census*. Cutting through the math, the paper finds that administrative data can be used to model the status of a housing unit, but, not surprisingly, no model does so with 100% accuracy. In the conclusion, the authors state, “[t]his approach allows flexibility in two key ways: constraints can easily be incorporated into the procedure as new information is learned, and threshold parameters used in the constraints can be chosen to achieve a desired balance between cost and quality.”

Overall, the use of administrative records to identify vacant/deletes is a method to reduce the cost of the 2020 Census but at the price of reducing quality. This risks exacerbating the differential undercount.

### **3. Other Changes That Will Not Offset Underfunding**

The Census Bureau is also contemplating two other sets of changes in an effort to offset its drastic underfunding of the NRFU operation.

First, the Census Bureau plans to use technology in the field. This Bureau intends for this use of technology to increase the productivity of enumerators by providing remote training, real-time updates about their cases, and improved information about when to visit a housing unit to maximize the probability of the residents being home. During the 2010 Census, enumerators only received updates daily. The



Census Bureau estimates that by instead informing enumerators immediately when a response is received they will be able to avoid making further visits to housing units and increase their overall productivity by 5%.

Second, the Census Bureau intends to impose new rules that will increase efficiencies. One major change will be to place greater reliance on apartment managers as sources of information about vacant units. The Bureau estimates that this change will reduce NRFU demand by 5 percent. After the third visit, enumerators will also be able to rely proxy respondents; in the 2010 Census enumerators could only turn to such data after the sixth visit.

#### **D. Cuts to Community Partnership Programs**

Another key census function that has been subject to significant cuts for 2020 is reliance on community partnerships.

##### **1. The Importance of Community Partnership Programs**

One of the more important ways the Census Bureau advertises the census and encourages self-response is through partnerships with national and community organizations. Indeed, a pervasive theme throughout Census Bureau budget and planning documents for the 2020 Census is that the Census Bureau's partnerships with local organizations are crucial for a high-quality census. One typical statement reads, "[t]he Census Bureau's experience conducting previous decennial censuses indicates that an effective integrated communications program is critical to its success. That is, communications and partnerships are crucial in educating the public and maximizing survey response rates."<sup>50</sup> Another important and often repeated theme about community partnerships is that community partnerships form effective bridges into hard-to-count (HTC) communities. For instance, version 4.0 of the Operational Plan

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<sup>50</sup> See page 1, from the 2020 Census Partnership Plan, <https://www2.census.gov/programs-surveys/decennial/2020/partners/2020-partnership-plan.pdf>

states, “The Census Bureau traditionally focuses on establishing partnerships with organizations that represent hard-to-count populations.”

As a demonstration of the value the Census Bureau places on community partnerships, in 2010, the Census Bureau formed 257,000 community partnerships, and in 2020, the Census Bureau has set a goal of 300,000 partnerships. These community partners include schools, local governments, faith-based institutions, and other trusted voices within communities.

“Trusted voices” is a key phrase because part of the logic behind community partnerships is that members of a local community may not trust the mailings they receive about the census. Instead, they will more likely trust what their children learn in school, what they hear at their church, and what they hear at social gatherings.

The Bureau relies on partnership help overcome a wide variety of challenges facing the census. According to the Census Bureau’s 2020 Partnership Plan, the challenges partners can assist with include: the public’s increasing distrust of government; respondents’ increasing unwillingness to share personal information; decreased confidence in security and confidentiality of collected data; informal, complex living arrangements that make it difficult to associate a person with a specific location; identifying and educating non-English speaking communities; concerns about the digital divide in hard-to-count, low response communities; smaller budgets and reduced staffing in potential partner organizations; lack of internet connection in rural areas; and in larger urban centers, the difficulty of accessing complex high-rise housing units. As a result, according to the Census Bureau, “The goals of the ICP were to improve the mail response rate, improve enumerator cooperation, and improve the overall accuracy and reduce the differential undercount in the census.”

## **2. Resources and Funding for Community Partnership Programs**

The 2010 Census significantly ramped up the community outreach program from the 2000 and 1990 Censuses. One metric for assessing the effort devoted to developing and maintaining community

outreach is the number of positions that the Census Bureau has assigned to community outreach. According to the GAO, in 1990, the Census Bureau had 181 such positions, and by 2000 that number more than tripled to 594. Recognizing the usefulness of community outreach, the Census Bureau vastly ramped up the number of positions in the 2010 Census, helped in part by a large infusion of funds from the American Recovery and Reinvestment Act.

As shown in Figure 11, according to the 2020 Partnership Plan, in 2010 partnership staff included 849 partnership specialists, 2,000 partnership assistants, 50 partnership coordinators, 12 graphic specialist, and 50 partnership clerks, for a total of 2,961 positions.<sup>51</sup>

**Figure 11: Partnership Staff in 2010 Compared with 2020**

<b>2010 Partnership Staff</b>	<b>2020 Partnership Staff</b>
<b>Partnership Specialists-849</b>	Partnership Specialists-1501
<b>Partnership Assistants-2000</b>	Partnership Assistants-0
<b>Partnership Coordinators-50</b>	Partnership Coordinators-61
<b>Graphic Specialists-12</b>	Graphic Specialists -6
<b>Partnership Clerks-50</b>	Partnership Clerks-63

According to the most recent Census Bureau estimates, the Bureau plans to hire only 1,630 partnership staff for the 2020 Census – just 55% of the staffing level of 2010. The proposed partnership staffing level comes despite the Bureau’s intention to increase the number of community partners from 257,000 to 300,000. This raises the risk that partnership staff will be overstretched and less effective due to a lack of resources. Figure 12 shows the funding devoted to these programs over time:

<sup>51</sup> In another Census Bureau document, 2010 Census Integrated Communications Program Regional Partnership Assessment Report, it was reported that 3,000 partnership assistants were hired.  
[https://www.census.gov/2010census/pdf/2010\\_Census\\_ICP\\_Regional\\_Partnership\\_Assessment.pdf](https://www.census.gov/2010census/pdf/2010_Census_ICP_Regional_Partnership_Assessment.pdf); *see also* footnote 49.

### Figure 12: Funding for Community Partnership Programs

Census	Funding (in Smillions)	Inflation Adjusted Funding (in 2020 \$ millions)
2000	\$142.9 <sup>52</sup>	\$210.5
2010	\$295.3 <sup>53</sup>	\$352.6 <sup>54</sup>
2020	██████ <sup>55</sup>	██████
2010 to 2020 percent change	██████	██████

The proposed funding for the 2020 Community Partnership Program is projected to

56

The community partnership program also may not be able to fill even the lower number of positions it has planned for in a timely manner. Indeed, the GAO raised this risk in a July 2019 report and tight labor markets across the country heighten the risk of hiring difficulties.<sup>57</sup>

To improve outreach to census respondents, the Bureau has proposed to spend more on general advertising; even that effort barely treads water. Figure 13 shows advertising budgets for 2010 and 2020 Censuses. [REDACTED]

<sup>52</sup> Figure from page 2 of 2010 Census Integrated Communications Program Regional Partnership Assessment Report, <https://www2.census.gov/programs-surveys/decennial/2010/program-management/5-review/cpex/2010-memo-217.pdf>

<sup>53</sup> Figure from Appendix D of 2010 Census Integrated Communications Program Summary Assessment Report, [https://www.census.gov/2010census/pdf/2010\\_Census\\_ICP\\_Summary\\_Assessment.pdf](https://www.census.gov/2010census/pdf/2010_Census_ICP_Summary_Assessment.pdf)

<sup>54</sup> The GAO reports a slightly lower number, \$334 million. See 2020 Census: Actions Needed to Address Challenges to Enumerating Hard-to-Count Groups, GAO-18-599; Published: Jul 26, 2018. Publicly Released: Aug 27, 2018. <https://www.gao.gov/products/GAO-18-599>

55 [REDACTED]

56 The decline is based on using CBO's estimates of the GDP deflator for FY 2010 and FY 2020.

<sup>57</sup> See 2020 Census: Bureau is Making Progress Opening Offices and Recruiting, but Could Improve Its Ability to Evaluate Training, GAO-19-602: Published July 2019. <https://www.gao.gov/assets/710/700375.pdf>

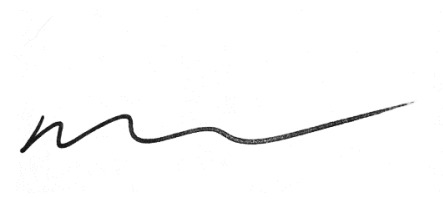
**Figure 13: Funding for Advertising**

Census Advertising Campaigns			
	Budget (in \$ millions)	Adjusted for inflation (2020 \$ millions)	Adjusted for inflation and population (2020 \$ per person)
2010	375.0	447.8	1.451
2020			

Therefore, the large, inexplicable drop in the funding for community partnership program is not offset by an increase in advertising. Although the Census Bureau has stated that the one of the primary goals of the community partnership program is to promote response rates in hard-to-count communities with the goal of reducing differential undercount, the Census Bureau is slashing its efforts in this area without meaningful offsets elsewhere. The community partnership program is one of the few tools at this stage in the census process where increased resources could help reduce differential undercounts.

\* \* \*

**I declare under penalty of perjury that the foregoing is true and correct.**



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- Conduct and presents research on technology, especially on the benefits, costs, and risks of the data economy.
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**Self Employed, July 2018 – present**

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**Managing Director, Senior Economist, Nomura Securities, September 2016-July 2018**

- Senior member of US economics team: Monitors economic developments, responds to internal and external clients, works with rates and FX teams, develops economic forecasts, posts summaries, and writes special reports.
- Extensive external client interactions: Travels frequently in the US and to Asia to meet with clients about the economic, political, and rates outlook. Clients included PMs and senior leadership at banks, insurance companies, central banks, hedge funds, mutual funds, investment banks, and private equity firms.
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- Deep knowledge and expertise on all things Fed/FOMC: Spent 15 years working in the Federal Reserve system and several years following the Fed in the private sector.
- Excellent public speaker: Regular appearances on CNBC's Squawk Box, Bloomberg, internal podcasts and videos, Nomura conferences, and other events.

**Under Secretary for Economic Affairs, Department of Commerce. Confirmed by the U.S. Senate January 2013 and served until September 2015.**

- Led the Economics and Statistics Administration (includes the Census Bureau and the Bureau of Economic Analysis) with a staff of over 10,000 and an annual budget exceeding \$1.2 billion.
  - Spearheaded innovative ways to better meet the mission of accurately portraying our \$18 trillion economy and our 320 million people.
  - Initiated outreach and strengthened communications with major stakeholders, including Capitol Hill, private companies, NGO's, and other government agencies.
- Advised the Administration on economic policy, including issues of data, trade, manufacturing, taxation, innovation, competitiveness, retirement security, immigration, and education.
- Spoke frequently to a wide array of audiences about the U.S economy, data, policy issues, and leadership.

- Formulated and executed the Commerce Department's inaugural Data Strategic Plan, a plan that spanned nine bureaus and included a new Commerce Data Advisory Committee that consisted mainly of private sector data experts.
- Oversaw and pushed policy changes for the Pension Benefit Guarantee Corporation (an organization with over \$80 billion in assets) while serving as the Secretary's appointed Board Representative.

**Chief Economist, Department of Commerce, August 2009-December 2012**

- Oversaw and authored reports on the middle class, intellectual property, broadband adoption, STEM education, and U.S. competitiveness.
- Made numerous public presentations about the U.S. economy to business groups, policy forums, local organizations, academic meetings, and membership organizations.
- Served as an economic advisor to the Department of Commerce and the Administration on a wide variety of economic issues.
- Transformed the Office of the Chief Economist and significantly increased its output and reputation.
- Led the COMPETES Advisory Committee and report writing.
- While Chief Economist, also served as Acting Under Secretary for Economic Affairs, January 2012-December 2012.

**Senior Economist, Federal Reserve Bank of San Francisco, 2003-2009**

- Regularly briefed President Yellen on current economic issues and forecasts.
- Conducted research in the areas of consumer spending, consumer sentiment, housing, productivity, and innovation.
- Organized conferences and professional meetings.
- Spoke about the economy to many audiences and boards of directors.

**Economist, Board of Governors of the Federal Reserve System, 1996-2002**

- Contributed to the staff forecast.
- Regularly briefed the Board of Governors on economic conditions and outlook.
- Monitored economic conditions.
- Produced economic statistics.
- Conducted longer-term economic research in the areas of technological change and labor markets.

**Economist, Organization for Economic Cooperation and Development, Paris, 1995-1996**

- Organized an international study on the relationship between technological change, productivity, and labor demand.
- Encouraged international coordination in using government micro data in research and policy analysis.

**Economist, Center for Economic Studies, Department of Commerce, 1992-1995**

- Big data research in productivity growth, technology, worker skills, and wages.

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University of Wisconsin-Madison, Ph.D. in economics. Major fields: econometrics and industrial organization.

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The Outlook for Consumption, May 2009

Applied Micro Summer Conference, June 2008, July 2007, and June 2006

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